

## CLAIMS

What is claimed is:

1. A circuit arrangement comprising:

an electrical load;

a power supply circuit coupled to the electrical load;

a primary voltage regulator coupled to the electrical load and to the power supply to provide a first amount of power, the primary voltage regulator having a feedback circuit to detect power supplied to the electrical load and to control additional voltage regulators;

a secondary voltage regulator coupled to the electrical load, to the power supply circuit, and to the feedback circuit of the first voltage regulator, the secondary voltage regulator to provide a second amount of power.

2. The circuit arrangement of claim 1, wherein the secondary voltage regulator further comprises a second feedback circuit to control additional voltage regulators.

3. The circuit arrangement of claim 2 further comprising a tertiary voltage regulator coupled to the power supply, to the electrical load, and to the second feedback circuit, the tertiary voltage regulator supplying a third amount of power.

1           4.       The circuit arrangement of claim 1 further comprising a tertiary voltage  
2 regulator coupled to the power supply, to the electrical load, and to the feedback circuit,  
3 the tertiary voltage regulator supplying a third amount of power.

1           5.       A computer system comprising:  
2           a processor module having a processor and a primary voltage regulator coupled to  
3 supply a first amount of power to the processor, the primary voltage regulator also having  
4 a feedback circuit for detecting voltage supplied to the processor and for controlling  
5 additional voltage regulators; and  
6           a system board coupled to the processor module having a secondary voltage  
7 regulator coupled to supply a second amount of power to the processor, the secondary  
8 voltage regulator coupled to and controlled by the feedback circuit.

1           6.       The computer system of claim 5 further comprising a signal  
2 communicated from the secondary voltage regulator to the primary voltage regulator to  
3 indicate when the secondary voltage regulator is supplying power to the processor.

1           7.       The computer system of claim 5, further comprising a docking station  
2 configured to receive a mobile computer, the docking station having a tertiary voltage  
3 regulator coupled to supply the processor with a third amount of power when the docking  
4 station has received the mobile computer, the tertiary voltage regulator coupled to and  
5 controlled by the feedback circuit.

1           8.     The computer system of claims 7, wherein the docking station further  
2 comprises an active thermal dissipation device thermally coupled to the tertiary voltage  
3 regulator.

1           9.     The computer system of claim 8 further comprising a second signal from  
2 the tertiary voltage regulator to the primary voltage regulator to indicate when the tertiary  
3 voltage regulator is supplying power to the processor.

1           10.    The computer system of claim 5, wherein the secondary voltage regulator  
2 is enabled in a pulse with modulated manner by the feedback circuit.

1           11.    A method for supplying power comprising:  
2 supplying power via a first voltage regulator to an electrical load;  
3 detecting whether a secondary voltage regulator is coupled to supply power to the  
4 electrical load;  
5 supplying power to the electrical load with the secondary voltage regulator, if  
6 present and if necessary, the secondary voltage regulator controlled by a feedback circuit  
7 ~~in the primary voltage regulator.~~

1           12.    The method of claim 11, wherein the secondary voltage regulator is  
2 enabled by the feedback circuit in a pulse width modulated manner.

1           13.    The method of claim 11 further comprising:

2 detecting whether a tertiary voltage regulator is coupled to supply power to the  
3 electrical load; and  
4 supplying power to the electrical load with the tertiary voltage regulator, if  
5 present and if necessary, the tertiary voltage regulator controlled by the feedback circuit.

1 14. The method of claim 13, wherein the tertiary voltage regulator is enabled  
2 by the feedback circuit in a pulse width modulated manner.

1 *sub*  
2 *a2* 15. An apparatus for supplying power comprising:  
3 means for supplying power via a first voltage regulator to an electrical load;  
4 means for detecting whether a secondary voltage regulator is coupled to supply  
5 power to the electrical load;  
6 means for supplying power to the electrical load with the secondary voltage  
7 regulator, if present and if necessary, the secondary voltage regulator controlled by a  
8 ~~feedback circuit in the primary voltage regulator.~~

1 16. The apparatus of claim 15, wherein the secondary voltage regulator is  
2 enabled by the feedback circuit in a pulse width modulated manner.

1 17. The apparatus of claim 15 further comprising:  
2 means for detecting whether a tertiary voltage regulator is coupled to supply  
3 power to the electrical load; and

4 means for supplying power to the processor with the tertiary voltage regulator, if  
5 present and if necessary, the tertiary voltage regulator controlled by the feedback circuit.

1 18. The apparatus of claim 17, wherein the tertiary voltage regulator is  
2 enabled by the feedback circuit in a pulse width modulated manner.

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